

Resources

Ranges, Road Courses and Facilities

Bldg. 4832: Airborne Systems Lab/Hangar Facility

Building 4832 houses the Airborne and Field Sensors Test Branch office, test project engineering offices, computers for instrumentation, a machine shop, ground support, and instrumentation, engineering, and design support. Specific services provided by the Airborne Systems Laboratory include test planning and coordination at Redstone Arsenal as well as other test ranges worldwide, aircraft acquisition, test site preparation, modifications to aircraft and associated airworthiness release documentation, data acquisition, data management, data reduction, and post test support.

The hangar houses test support aircraft used in captive flight tests of various seeker/sensor systems. The building is located in a restricted access area adjacent to the Redstone Army Airfield and is accessible via a paved taxiway to a 7,300-foot instrument approach runway. Offices and laboratory spaces are located on each side of a 20,000 square foot hangar floor, which also has a 10-ton overhead crane. Compressed air, nitrogen, and several standard sources of aircraft electrical power are available together with standard ground support equipment. A machine shop is available to meet special fabrication requirements for mounting test components. Additional high precision machine shops are also available for fabricating prototype components.

The design section uses AUTOCAD software for the creation of engineering drawings, which may be integrated into I-DEAS Software for structural and dynamic analysis. Instrumentation for airborne or ground test articles and

targets is provided by onsite staff, which includes telemetry system design and installation of test instrument packages onto test hardware,



Airborne systems
lab



Machine shop



Interior of
airborne systems
lab



Three UH-1H helicopters and two C-23As fixed wing cargo airplanes may be dedicated to support test projects. These aircraft have been used for several years supporting captive flight tests of virtually every Army missile seeker system in R&D. They are also available to be used to transport test data, personnel, and small equipment items to sites away from Redstone Arsenal. In addition to these readily available aircraft, numerous other types of captive flight and target aircraft are available through coordination with other organizations. The Airborne and Field Sensors Test Branch has an array of equipment racks and seeker mounts already fabricated, many of which require little or no modification to accommodate the more standardized size and type of test equipment and sensors. While much of the laboratory's work involves captive carry flight-testing, other capabilities include providing numerous types of aircraft for aerial targets, aerial photography and surveying, helicopter lift testing, airborne instrumentation checkout, and specific aircraft signatures and cross

sections. Several types of special aircraft augmentation are available including IR jammers and sources, chaff and flare dispensers, and RF emitters. For collecting of target Time Space Position Information (TSPI) data, the Low Cost Airborne Interim Tracking System (LOCAITS), is available for use on ground and airborne targets. The system provides the test conductor a real time position for each target player. To enhance the repeatability of test trials, a kneeboard or cockpit mounted monitor can be provided to pilots of aircraft or ground vehicle operators for precise positioning of their respective equipment.



Black Hawk on
south end of
hangar



Available UH-1
helicopters



UH-1 with
airborne
stabilized
platform

Test Area 3, the nearby test range controlled by the Airborne and Field Sensors Test Branch, has been computer modeled producing a "Virtual Range." This range is complete with seasonal foliage, terrain, buildings, road networks, terrain relief, and infrared overlay data for various combinations of seasons, time of day, and IR signatures. Mapping is available to support computer modeling and simulation of system tests. The Virtual Range terrain database is built on top of a high-resolution grid (geometry) with photographic texture map overlays. The Range is compatible with standard interface formats including Distributed Interface Network PDUs. Test Area 3 tests can be monitored and controlled in real-time using the 3D test range display. The test can then be played back for post-test evaluation.

[Click here for a printable version of this page.](#)
Adobe Acrobat Reader is required.

[Back to Top](#)

Last updated January 2, 2002

Please read this
Privacy & Security Notice

Please send questions or comments about
this page to webmaster@rttc.army.mil